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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/336,090	06/18/1999	FRANK KASTENHOLZ	AGM-006	7246

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HARRITY & SNYDER, LLP
11240 WAPLES MILL ROAD
SUITE 300
FAIRFAX, VA 22030

EXAMINER	
WAXMAN, ANDREW	

ART UNIT	PAPER NUMBER
2667	14

DATE MAILED: 10/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/336,090	KASTENHOLZ ET AL.	
	Examiner	Art Unit	
	Andrew M Waxman	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *11* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 2, 3, 11, 17, and 18, are rejected under 35 U.S.C. 102(b) as being anticipated by Cotton et al. (US Patent No. 5,255,264), hereinafter referred to as Cotton.

Regarding claim 1, Cotton discloses a network with a switching elements (FIG. 1) containing processors used to communicate with line cards (Col 2, lines 45-50), with first 22 and 24 and second layer switches and third and fourth layer switches 26 and 28 (expanded interconnect modules, see Col 4, lines 25-33), where the number of switches desired for communication is dependent upon non-blocking and redundancy considerations (Col 4, lines 65-67) and the data can switch from port to port or channel to channel (Col 5, lines 14-16) used to further communicate with the terminal equipment (Col 3, lines 5-10) an interconnect module having coupling means to a non-local I/O channels by means of electricity (Col 3, lines 8-12), a plurality of protocols and speeds to include the standards: T1, CEPT, and ISDN for compatibility to this system where all are known to have distinct bit rates and protocol communication (Col 2, lines 19-24).

Regarding claims 2 and 3, Cotton discloses of synchronization with Channel 0, where it is a portion of a data format diagram from (Fig. 2) and is used for synchronizing between expanded or local transfer elements (Col 7, lines 53-54).

Regarding claim 11, Cotton discloses a redundant switching capability where an alternative message separate from the original message is sent between interconnecting modules (Col 46, lines 50-55).

Regarding claim 17, Cotton discloses an index means for path information regarding a destination address (Col 10, lines 51-53) and (Col 9, lines 63-67).

Regarding claim 18 the elements of the transferring and connecting are substantially identical switches (Figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotton et al. (US Patent No. 5,255,264) in view of Chalmers et al. (US Patent No. 6,052,364), hereinafter referred to as Cotton and Chalmer respectively.

Regarding claim 20, Cotton discloses a network with a switching element (FIG. 1) containing processors used to communicate with line cards (col. 2 lines 45 – 50), with an expanded interconnect (20), and including expanded transfer elements (22, 24, 26, or 28 and col. 4 lines 25 – 33) for transferring information between interconnects.

Regarding claim 4, Cotton discloses all of the limitations above with respect to claim 1.

Cotton does not disclose a hot-swappable capability associated with the modules as claimed in claims 4 and 20.

Chalmers discloses hot-swappable modules used in a multiple telecommunications apparatus' contained in a telecommunications rack. See col. 8 lines 54 – 60.

At the time the invention was made it would have been obvious to one of ordinary skill in the art to include hot-swappable capability, as disclosed by Chalmers, into the invention as disclosed by Cotton (claims 4 and 20).

One of ordinary skill in the art would have been motivated to do this in order eliminate system downtime due to module failures requiring removal and replacement. See col. 8 lines 59 – 60.

Claim Rejections - 35 USC § 103

Claims 5-10, 13-16, 19, and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotton in view of Gupta (US Patent No. 6,272,151).

Regarding claims 6 – 10, 13, 14, and 16, Cotton discloses all of the limitations as recited above with respect to claim 1, further disclosing a network would have modules and channels both local and non-local for 1/O operations.

Cotton does not teach that a network configuration with the limitations mentioned above would have a method of: back pressure means, priority and status information, nor does Cotton teach of memory queues or cells used for data transmission and destination addresses as a means for information transfer in a networking environment. Cotton further fails to disclose I/O information being regulated by a certain priority and a certain content level nor the use of cells or destination addresses as means for network data transfer.

Gupta discloses where the buffer memory is a threshold deterministic method of controlling the flow of data packets (Col 12, lines 21-24), Gupta also teaches a method to indicate unavailability in an associated queue and a back pressure means for dealing with packet transfer for data in (Col 19, lines 19-29) the network. Gupta further discloses the priority of packet distinction is apparent (Col 11, lines 64-67). Furthermore, Gupta discloses cells in transmit queues, and of priorities used on cell transfers with destination addresses included within (Col 7, lines 61-65).

At the time the invention was made it would have been obvious to one of ordinary skill in the art to use a threshold means for determining the status of data transfer, the capacity of a packet transfer data system, to use different priority packets in a network environment, and cells in transmit queues, and of priorities used on cell transfers with destination addresses included within in the invention as disclosed by Cotton.

One of ordinary skill in the art would have been motivated to do this in order to provide a more efficient way of controlling the flow of data packets, thereby reducing unnecessary data loss. Furthermore, using different priority packets in a network environment would allow for the ability to ensure the different degrees of importance in data transferring and have prioritized data transferring in the correct order for more efficient means of network data transmission.

Regarding claims 5, and 22-26, Cotton discloses all of the limitations as recited above with respect to claim 1. Cotton further discloses a switching network with dynamic bandwdth scalabity. See col. 46 lines 59 – 61.

Cotton does not disclose a QoS means.

Gupta discloses the QoS means (Col 5, lines 3-9) and different priority levels associated with the data transfers (Col 7, lines 60-65) and (Col 8, lines 1-5).

At the time the invention was made it would have been obvious to one of ordinary skill in the art to have included bandwidth allocation for nodes entering or leaving a networking environment, in the invention as disclosed by Cotton.

One of ordinary skill in the art would have been motivated to do this in order to ensure dynamic scaling capabilities for easy implementation and accurate load bearing measures and to include priority as a limiting factor to favor more time sensitive data.

Regarding claim 19, Cotton discloses all of the limitations as recited above with respect to claim 18.

Cotton does not expressly disclose a mode process.

Gupta discloses that mode and transport protocols use a mode selection process to determine where the transfer elements are to be utilized (Col 2, lines 64-67).

At the time the invention was made it would have been obvious to one of ordinary skill in the art to have a mode process used to distinguish between the different modes of various transfer elements.

One of ordinary skill in the art would have been motivated to do this in order to simplify the process of mode selection in a networking environment.

Regarding claims 15 and 23, Cotton discloses all of the limitations as recited above with respect to claim 1.

Cotton does not disclose a high speed bus or parallel processing method of transferring data.

Gupta discloses the association of cells and a high speed bus (Col 5, lines 40-43), and, Gupta teaches the addition of SMN broadcasts being described as cells transmitted across buses that use parallel processing, Gupta further discloses a plurality of cells being transferred simultaneously (Col 5, lines 59-63), hence the purpose of parallel processing.

At the time the invention was made it would have been obvious to one of ordinary skill in the art to have a high speed bus that uses parallel processing.

One of ordinary skill in the art would have been motivated to do this because for a bus to be transferring at respective high speeds it is often necessary to have simultaneous cell transfer hence, parallel processing which includes data cells transferring simultaneously.

Claim Rejections - 35 USC § 103

Claims 12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotton.

Regarding claims 12 and 21, Cotton discloses all of the limitations as recited above with respect to claim 1. Cotton further discloses the use of redundancy.

Cotton does not expressly disclose the process of bearing redundant data by means of an exclusive-or logic operation.

Although Cotton does not expressly disclose the process of bearing redundant data by means of an exclusive-or logic operation, the process is commonly used in hardware systems as the exclusive-or operation is to data bits what the plus sign is to a calculator and is imperative to summing the columns or rows of data for redundant bits to be comparatively exposed for error checking at a later time, This type of data redundancy is used by the CRC (Cyclical Redundancy Check) type operation which is thought be one if not the most common type of redundancy used in data network transmissions. Furthermore, the use of an exclusive-OR logic operation clearly provides a cost effective and simple way to implement to necessary cyclical redundancy check operation. Therefore, at the time the invention was made it would have been obvious to one of

ordinary skill in the art to have included the use of the exclusive-or operation in a redundancy check to add or sum bits into the invention as disclosed by Cotton.

One of ordinary skill in the art would have been motivated to do this in order to search for bit errors and provide redundancy for a data transferring system.

Response to Arguments

Applicant's arguments with respect to claims 1 – 26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M Waxman whose telephone number is (703) 305-8086. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Andrew M. Waxman

CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

10/28/03